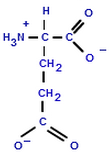
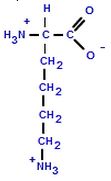
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_

**Notes Questions for the Unit 4 Notes, Part 3 – Macromolecules (Section B)**

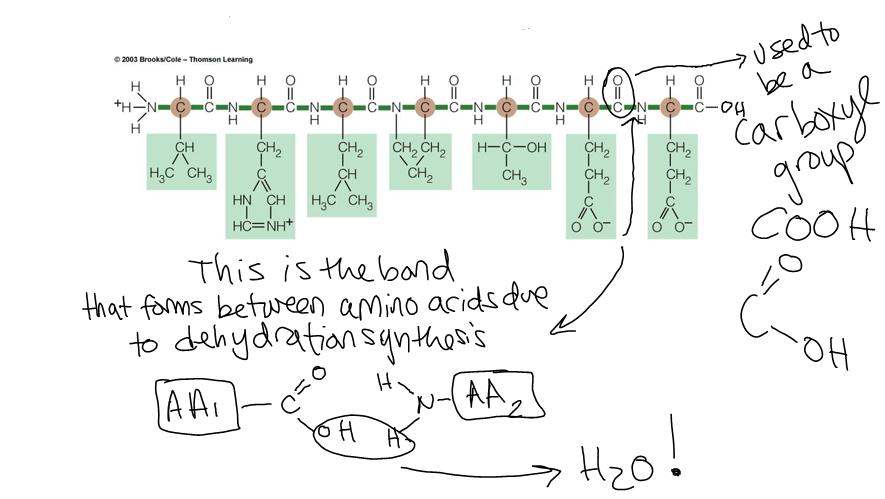
Mrs. Krouse, AP Biology

***Practice Questions:*** *Answer the following questions thoroughly and accurately.*

1. If the side-chain of an amino acid includes many carbon and hydrogen atoms, will the amino acid be polar or nonpolar? *Hint: Look at the properties of the functional group methyl in your Section A notes.*
2. What type of bond will form between the R groups on these two amino acids (note that the R groups have opposite charges)? See images of both amino acids below.

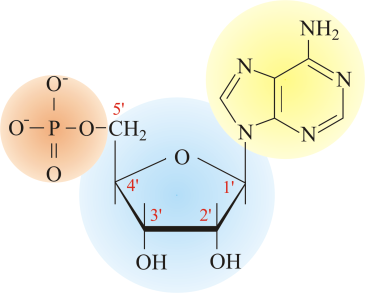
 

1. In the image below of a polypeptide, label the following components: the N-terminus, the C-terminus, a peptide bond, an amino group, an R group, a central carbon atom, and a single amino acid. A carboxyl group has already been labeled for you.



1. Identify the level of protein structure shown in each of the images below (i.e., primary, secondary, tertiary, or quaternary structure), and provide an explanation for your choice.

|  |  |  |
| --- | --- | --- |
| **Image** | **Level of Structure** | **Explanation** |
|  |  |  |
|  |  |  |
|  |  |  |
| http://faculty.ccbcmd.edu/~gkaiser/biotutorials/proteins/images/u4fg1b3.jpg |  |  |



1. Label the parts of the nucleotide picture to the right.
2. Describe the differences between DNA and RNA.
3. Compare and contrast proteins and nucleic acids using the chart below.

|  |  |  |
| --- | --- | --- |
|  | Proteins | Nucleic Acids |
| Elements Present |  |  |
| Functions |  |  |
| Monomers (Name and/or Examples) |  |  |
| Polymers (Name and/or Examples) |  |  |